

from issue and declare an interference between the present application and the third party application.

1. Factual Background

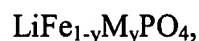
Valence Technology, Inc. ("Valence") is the owner of Application Serial No. 09/484,799 by way of an Assignment from inventors Jeremy Barker and M. Yazid Saidi to Valence, recorded on January 18, 2000, at reel no. 010556, frame no. 0806. The application is directed to the complex chemical field of electrochemically active electrode materials ("active materials") for use in rechargeable lithium-ion batteries.

On May 21, 2002, Examiner Carol Chaney issued a Notice of Allowability (Paper No. 7) allowing certain claims previously submitted by Applicants' counsel. The allowed claims recited a composition with the general formula



wherein M is selected from the group consisting of Mg, Ca, Zn, Sr, Pb, Cd, Sn, Ba, Be, and mixtures thereof; and wherein $0 < y < 1$. (See, claims 56-79 of Paper No. 6). Claims directed to electrodes (See, claims 80-107 of Paper No. 6) and batteries (See, claims 108-134 of Paper No. 6) comprising the above-stated composition were also deemed allowable.

On or about July 18, 2002, Michael Ross, in-house counsel for Valence, filed a Continued Prosecution Application (CPA) in response to the Notice of Allowance. In the CPA, new claims were submitted for consideration limiting the claimed invention to a composition with the general formula



wherein M is selected from the group consisting of Be, Mg, Ca, Sr, Ba, and mixtures thereof; and wherein $0 < y < 1$. (See, claims 134-151 of the CPA). The metal M thus represents a subset of

the group previously recited in the earlier allowed claim. Claims directed to electrodes (See, claims 153-165 of the CPA) and batteries (See, claims 166-176 of the CPA) comprising the above-stated composition were also presented in the CPA for consideration by the Examiner.

On or about August 16, 2002, Mr. Ross conducted a telephone interview with Examiner Chaney, during which Examiner Chaney informed Mr. Ross that she would pass the application to allowance, if Applicant removed all references to magnesium (Mg) from all of the claims presented in the CPA. Since $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ is the embodiment actively commercialized by Valence, the Examiner's offer was refused. Examiner Chaney informed Mr. Ross that she intended to propose to the Technology Center Interference Specialist that an interference be declared between Applicants' application and an application owned by a third party ("third party application"). Examiner Chaney would not provide Mr. Ross with the filing date or the name of the applicant of the third party application. It is Valence's understanding, however, that the third party patent application has not been published, and therefore was and remains unavailable for consideration by Valence.

On October 23, 2002, Mr. Ross and Roger Williams, General Counsel for Valence and an officer of the corporation, conducted a follow-up telephone interview with Examiner Chaney. During the interview, Examiner Chaney verbally informed Mr. Ross and Mr. Williams that she had issued a Notice of Suspension, suspending *ex parte* prosecution of Valence's application for a period of six (6) months from the mailing date of the Notice, namely October 25, 2002. Examiner Chaney further indicated that a Notice of Allowance had been issued for the third party application, and that, upon payment of the issue fee and subsequent issuance of a patent, Examiner Chaney intended to cite the issued patent against Applicants' application. Examiner Chaney again would not provide Mr. Ross and Mr. Williams the filing date and/or the name of

the applicant of the third party application, when the Notice of Allowance for the third party application had been mailed, or why an interference memorandum was not submitted to the Board for consideration.

2. Request for Reconsideration

Applicants respectfully request reconsideration of the Office's decision to suspend prosecution of Applicants' application and not to declare an interference between Applicants' application and the third party application. Applicants respectfully request that the Office withdraw the third party application from allowance or issue, and declare an interference between the present application and the third party application.

A. Standard for Declaring an Interference Between Applications

MPEP § 2303 states, in part:

Interferences will not be declared between pending applications if there is a difference of more than 3 months in the effective filing dates of the oldest and the next oldest applications, in the case of inventions of a simple character, or a difference of more than 6 months in the effective filing dates of the applications in other cases, except in exceptional situations, as determined and approved by the TC Director. One such exceptional situation would be where one application has the earliest effective filing date based on foreign priority and the other application has the earliest effective United States filing date. If an interference is to be declared, all applications having the interfering subject matter should be identified.

B. A Decision Not to Declare An Interference Was Likely

Based on a Consideration of Filing Dates Alone.

The Office Action includes no indication or allegation that the effective filing date of the present application and the filing date of the third party application are more than six months

apart as is necessary in a complex case. Applicants submit that the present invention is complex in nature. As a result, Applicants respectfully submit that the Office must demonstrate the filing dates of the present application and the third party application are more than six months apart. As shown below, based on the information available to Petitioners, this is likely not the case.

Valence has extensive knowledge of research in cathode active materials and holds over 260 U.S. Patent in the field of rechargeable batteries. Mr. Ross and Mr. Williams have conducted an extensive search of the available prior art. The search included a full text search of all U.S. and Canadian patents and patent applications filed prior to the filing date of Applicants' application. The search also included a search of the abstracts of patent applications published by 69 other countries, including, but not limited to: China, Germany, France, Great Britain, the European Patent Office (EPO), the World Intellectual Property Organization (WIPO), Australia, and Japan. To the best of Applicants' knowledge, the only patent applications filed anywhere in the world directed to the chemical composition $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$, wherein $0 < y < 1$, with an effective filing date predating that of Applicants' Application, are Japanese Patent Application Nos. JP-0261394 and JP-0282445, filed September 16, 1999 and October 4, 1999, respectively, by Nippon Telegraph and Telephone Corp. of Japan.

However, the filing dates of the present application and the two above-identified Japanese applications are less than six months apart. Thus, if the third party application is related to either of the above-identified applications owned by Nippon Telegraph and Telephone Corp., Applicants submit that an interference should be declared based on the PTO's own guidelines in view of the complex subject matter of the present application.

C. The Present Case is an "Exceptional Situation".

An interference also should be declared between two applications having filing dates greater than 6 months, in "exceptional situations." In the event the filing date of the present application and the third application are greater than 6 months, the present case provides an "exceptional situation" and therefore equity dictates that an interference be declared between the applications. Exceptional circumstances that warrant declaring an interference in this case include ensuring that the Office issue a single valid patent, avoiding unnecessary economic hardship, avoiding duplicative adjudication of the validity of a patent (and thus saving precious judicial resources), and serving the public interest. Each of these exceptional circumstances is further discussed, below, and substantially outweighs any hardship that would be imposed on the third party by withdrawing their application from allowance and issue. Any alleged hardship incurred by the third party can be mitigated by the third party initiating publication of their allowed claims.

Applicants Would Suffer Severe Hardship if an Interference Is Not Declared

Applicants and Professor Goodenough, now at the University of Texas, were leading pioneers from the early 1990's in the investigation of lithium metal phosphates used as cathode materials. These two groups lead research in the complexity of the use of phosphates in both the olivine and NASICON structural configurations. Notably, Applicants have successfully obtained several patents relating to phosphate-based electrode active materials, with filing dates as early as 1996. (e.g., see, U.S. Patent No. 5,871,866 to Barker et al., issued Feb. 16, 1999). Applicants believe, based on an early conception, coupled with diligence until an actual reduction to practice and their subsequent filing of an application, that Applicants are likely to prevail in any interference proceeding between the subject application and the third party application.

Applicants submit that development is unusually long in the lithium-ion rechargeable battery field compared to some fields of endeavor (e.g., software development). In the chemical arts, longer development cycles are often a necessary undertaking in order to produce extraordinary and commercially viable products. Thus, long development cycles in certain arts, such as production of chemical compounds for rechargeable lithium batteries, should be taken into account when determining whether to declare an interference.

If the Office does not declare an interference while both applications are pending, Valence likely will suffer severe economic hardship. The subject matter that Examiner Chaney requested Applicants cancel from the present application encompasses Valence's commercial embodiment of the invention, which also represents a substantial portion of Valence's business income. Valence has invested considerable time, effort and capital in research and development surrounding lithium-ion batteries containing $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$, and Valence has further invested considerable money in establishment of large-scale manufacturing for $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$. Valence is currently selling commercial products containing $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ as a cathode active material. In particular, Valence is currently offering for sale to the general public, rechargeable lithium-ion batteries under the trade name "N-Charge." Valence is also engaging in qualification processes with multiple original equipment manufacturers (OEM's), for the purpose of qualifying Valence's $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ -containing batteries for use in their equipment. (See, press release entitled "Valence Technology Moves Forward With N-Charge Qualification Process", September 26, 2002, Exhibit A) (See also, VALENCE TECHNOLOGY INC - Annual Report, SEC form 10-K, Exhibit B)]

Valence's $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ electrode active material has been selected for evaluation by the United States Advanced Battery Consortium's (USABC) Technology Assessment Program.

The USABC is comprised of representatives from Ford Motor Company, DaimlerChrysler, General Motors Corporation, and the U.S. Department of Energy. The USABC's Technology Assessment Program is being used to evaluate technologies for consideration in the development of advanced high-performance batteries for electric vehicles. (See, press release entitled "Valence Technology Receives Purchase Order from USABC to Participate in Technology Assessment Program", October 11, 2002, Exhibit C). If the Office fails to declare an interference and permits the third party application to issue, commercialization of $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ electrode active material would expose Valence and Valence's customers to the risks of litigation for patent infringement, and would dilute the significance of the determination of who first invented the subject matter within the myriad of issues associated with modern patent litigation. These risks would likely result in Valence's inability, in the near term, to enter into commercial relationships with OEM's who provide products for the domestic economy. Conducting an interference first would more expeditiously and more economically resolve the issue of who rightly invented the technology.

The Claimed Technology is of Particular Societal Importance, and Therefore "Special".

It has been acknowledged by those skilled in the art that $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ -containing lithium-ion batteries are well suited for large format applications (e.g. batteries for electric vehicles), because the compound exhibits a high level of safety as compared to competing technologies (e.g. lithium-ion batteries containing lithium cobalt oxide and the like). (See Declaration of M. Yazid Saidi, Exhibit D).

Phosphate-containing lithium-ion batteries (e.g. lithium-ion batteries containing $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$) exhibit superior safety as compared to lithium-ion batteries containing competitive

electrode active material, such as lithium cobalt oxide (LiCoO_2)-containing lithium-ion batteries. For example, in contrast to phosphate-containing lithium-ion batteries, lithium cobalt oxide-containing lithium-ion batteries will ignite if subjected to temperatures above 160°C .

Furthermore, phosphate-containing lithium-ion batteries exhibit substantially superior safety when subjected to overcharge conditions. As shown in the enclosed video entitled "P1a Batteries" (Exhibit E), a Valence $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ -containing lithium-ion battery ("P1a battery") and a lithium cobalt oxide-containing lithium-ion battery ("LCO battery") were subjected to overcharge conditions. As the video demonstrates, the LCO battery ignited at about 5.3 volts when subjected to a charge current of three times the manufacturer's recommended charge rate, and the resulting thermal event occurred at a temperature of about 700°C . In contrast, the P1a battery was held at a higher voltage, e.g. 12 volts, for over 48 hours, during which time the battery reached a temperature of only 60°C . Even when the P1a battery was ramped to 24 volts for 64 hours, no thermal event or ignition of the phosphate active material occurred.

To the best of Mr. Ross' and Mr. Williams' knowledge, both of whom are familiar with the industry, no entity anywhere in the World, other than Valence, is currently actually manufacturing a lithium-ion battery comprising LiFeMgPO_4 , wherein $0 < y < 1$. As noted above, if the Office permits the third party application to issue, Valence could be charged with infringing the corresponding patent, and thus would likely cease manufacturing LiFeMgPO_4 in order to minimize their liability until the issue of who was first to invent would be resolved. Thus, the public would be deprived of a lithium-ion battery comprising LiFeMgPO_4 until the third party or a licensee thereof were able to commercialize the same.

Finally, Applicants have submitted concurrently herewith a Petition to Make Special. Applicants respectfully submit that in the event the present application is accorded special status,

it is against the public interest to suspend prosecution of a special application when the issues at hand can be effectively resolved through the declaration of an interference proceeding.

The Office Has An Interest In Ensuring Only One Patent Is Granted

The Office has a strong interest in ensuring that it grants only valid patents. In re Alappat, 33 F.3d 1526, 1535, 31 USPQ2d 1545, 1550 (Fed. Cir. 1994) (en banc) (“The Commissioner has an obligation to refuse to grant a patent if he believes that doing so would be contrary to law.”) Based on Applicants’ belief that it is likely to prevail in an interference proceeding between the present application and the third party application, Applicants believe that should the third party application be allowed to issue as a patent, it will ultimately be revoked. Thus, declaring the interference while both applications are still pending, rather than issuing a patent that will likely later be invalidated, will ensure that only a single valid patent issues, regardless of whether it is ultimately the present application of Applicants or the third party application.

Should a patent issue to the third party, and should the third party assert the potentially invalid patent against Valence, Valence will be forced to spend large sums of money defending a lawsuit involving a potentially invalid patent, and risks being enjoined from producing and selling a compound that represents one of its primary sources of income. Similarly, the customers and potential customers of Valence could be exposed to risk should the third party application be allowed to grant. Such a risk could present an economic risk to the customers and delay the adoption of this technology, even the consideration of the risk by customers and potential customers could delay the adoption of the technology. As discussed above, the technology is a promising technology offering substantial safety benefits and adaptive form

factor over the current lithium ion cobalt oxide batteries.

In addition, because judges are not required to stay litigation proceedings while an interference is pending, Valence may be required to defend a lawsuit while simultaneously being engaged in an interference with the third party application. This possibility can be avoided entirely by the Office's retaining jurisdiction over the matter and declaring an interference while both applications remain pending.

As stated above, there is a likelihood that, should the third party application issue as a patent, the ultimate validity of such patent could be litigated at least twice: once in court, and once in an interference proceeding. If the Office declares an interference while both applications remain pending, the litigation can be avoided, thus saving precious judicial resources. That is, the interference will likely occur regardless of whether it is declared now or later. However, unnecessary litigation can be avoided by the Office by declaring an interference and retaining present jurisdiction over this matter. By declaring an interference, the Office's interest in ensuring that only one valid patent issues is best fostered.

Third Party Manufacturers Could Be Harmed By The Office's Decision Not to Declare
An Interference

If the third party patent issues, parties wishing to commercialize lithium-ion rechargeable batteries comprising $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ would be required to enter into a commercial licensing agreement with the owner of the third party application. However, should Valence prevail in an interference proceeding, any such licensing agreements would become null and void or, even worse, would require any such licensees to continue paying license fees to an owner of an invalid patent. In addition, under such situations, to continue their use of this technology these licensees

would be required to negotiate a new license with Valence. This potential risk of dual licensing could thwart prospective licensees from seeking a license and thus hinder commercialization of the claimed composition which, as indicated in the concurrently filed Petition to Make Special, is of vital importance to the conservation of energy resources and materially enhances the quality of the environment of mankind.

In addition, it is in the public interest that prospective licensees be given the opportunity to commercialize the claimed composition as soon as possible. Publication of both applications would permit prospective licensees the opportunity to negotiate the terms of a license agreement with each party regardless of which party ultimately prevails. Other entities have publicly stated that they are commercializing lithium-ion batteries comprising "lithium iron phosphate electrodes". In particular, in a press release issued June 26, 2002, Electrovaya, Inc. of Canada issued a press release (Exhibit F) stating that its PowerPad series of products were available with "lithium ion phosphate as the positive electrode." Furthermore, the attached list of published applications (Exhibit G), each having an effective filing date postdating that of the present Application, indicate that several other entities are attempting to obtain patent protection for the composition $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$, wherein $0 < y < 1$. Thus, commercial interest in $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$ is present. By withdrawing the third party application from issue, any parties commercializing the claimed composition without authorization prior to termination of the interference proceedings and issuance of the prevailing party's patent would be required to pay the prevailing party a "reasonable royalty". Applicants submit that the third party would not be prejudiced by the withdrawal of their application from issuance, because the third party could elect to publish their application, thus entitling the third party to "reasonable royalty" damages should they prevail.

The Owner of the Third Party Application Would Not Be Prejudiced

With respect to any concerns that by instituting an interference the owner of the third party application would obtain a reduced enforceable term for the patent as a result of being required to wait until an interference is completed (assuming the owner of the third party application prevails in the interference), applicable patent-term adjustments provide for increased term based on delay due to an interference. (See, 37 C.F.R. § 1.702 (c)). Furthermore, the third party can elect to publish their application, thus entitling the third party to "reasonable royalty" damages should they prevail.

Summary

All of the above exceptional circumstances support the fact that the public interest is best served by the Office withdrawing the third party application from allowance/issue and declaring an interference between the present application and the third party application. An interference is likely to occur in any event, the only remaining question is *when* the interference will occur. Given the technology involved, public interest strongly favors the interference proceeding while both applications remain pending before the Office for the reasons stated above.

3. Request for Declaration of an Interference

Should the Office determine and demonstrate that the filing dates of the third party application and the present application are more than six months apart, Applicants request that this Request be directed to the Technology Center Director as required by MPEP § 2303. Applicants respectfully submit that the present application presents exceptional circumstances

that warrant declaration of an interference, and that the third party application be withdrawn from issue.

4. Summary

While Applicants are unaware of the filing date or the actual scope of the claims allowed in the third party application, given the very narrow scope of the subject matter currently claimed in Valence's application, it is likely that the Technology Center Interference Specialist failed to propose to the Board that an interference be declared on the basis of filing date alone, not on any appreciable difference in claim scope or some other mitigating factor.

It is likely that an interference proceeding will take place regardless of whether it is declared while both the present application and the third party application remain pending, or subsequent to issuance of the third party application. However, "exceptional" circumstances including potential hardships to the Judiciary, the Applicant, and potential licensees strongly favor the withdrawal of the third party application from issue and declaration of an interference between the two applications.

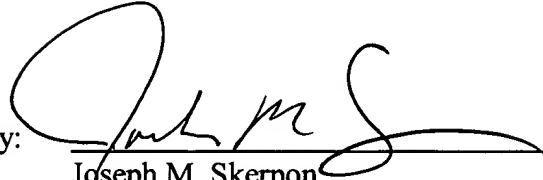
Based on the above, Applicants respectfully request that the suspension of *ex parte* prosecution be withdrawn at the Office's earliest convenience, and that the Office declare an interference between the present application and the third party application.

Respectfully submitted,

BANNER & WITCOFF, LTD.

Date: Nov. 5, 2002

By:

A handwritten signature in black ink, appearing to read "Joe M. Skerpon", written over a horizontal line.

Joseph M. Skerpon

Registration No. 29,864

1001 G Street, N.W., Eleventh Floor

Washington, D.C. 20001-4597

(202) 508-9100